CSCAPE 2005: NOAA Ship *David Starr Jordan*
Weekly Science Report – Leg 2
18 August, 2005
Karin A. Forney – Cruise Leader

SCIENCE SUMMARY: 11 – 17 August 2005

Last week ended with our hearts full of hope that the winds would die down and we would finally find an abundance of marine mammals. Well, I can't say we succeeded in that venture – the weather stayed windy (but workable) and the animals remained sparse. But things picked up a bit late in the week as we neared the coast, and we also had some interesting sightings in the offshore areas. Four encounters with sperm whales (mostly singles), a daily dose of fin whales, and one very close sighting of Baird's beaked whales. Some further excitement for the week was offered by two blue whales seen far offshore near the outer edge of our study area. We successfully obtained photos from both, despite rough weather, and deployed some sonobuoys for acoustic recordings. And a few days later, we found another blue whale about 100 miles offshore – this time we got photos, a biopsy, and a sonobuoy recording!

This week also saw the return of dolphins to our transect lines, beginning with a scattered, active group of Pacific white-sided dolphins that appeared right on cue as we steamed across the shelf break off Oregon, and on our last day out we found a cooperative group of Risso's dolphins. We obtained nine dolphin biopsies, plus nice recordings of both species from the bow hydrophone. Dall's porpoise are also once again entertaining us, zipping to the ship, from the ship, here, there and everywhere - seemingly always in a hurry. And finally, we found some Beaufort 1 conditions again, albeit in the fog near the coast…. We are now just offshore of Newport, Oregon, looking forward to going ashore tomorrow for a well-deserved break. Several new scientists will join the project, and a few of us will be leaving: Peter Pyle, Great Lyons, Jason Larese, and Tim O'Toole (for one leg), and myself. Before I leave, I'd like to thank the wonderful scientific team, and the fun and capable crew of the *Jordan* for all their dedication and hard work this leg. It's been a success!

Sightings and Effort Summary for Marine Mammals

Date	Start/Stop Time	Position	Total Distance	Avg. Beaufort
081005	0642	N41:10.15 W127:59.67	85.3 nmi	3.7
	2035	N41:37.09 W130:00.55		
081105	0657	N41:34.36 W130:00.93	114.8 nmi	3.2
	2033	N42:55.39 W130:20.39		
081205	0659	N43:15.97 W130:58.22	87.2 nmi	3.3
	2020	N42:51.25 W128:54.75		
081305	0646	N42:47.46 W128:39.57	17.3 nmi	5.8
	0913	N43:06.20 W128:32.81		
081405	0645	N44:29.38 W129:47.05	116.8 nmi	4.1
	2030	N46:30.44 W129:04.20		
081505	0705	N46:04.51 W130:18.00	108.8 nmi	4.6
	2016	N45:35.23 W127:35.59		
081605	0648	N45:35.12 W127:33.84	94.5 nmi	3.9
	2011	N45:10.73 W125:21.00		
081705	0938	N45:09.99 W125:18.64	46.8 nmi	2.5
	1954	N44:45.90 W124:17.77		

CODE	SPECIES	WEEKLY TOTAL#	CSCAPE TOTAL#
005	Unidentified common dolphin	-	1
017	Short-beaked common dolphin	-	12
018	Bottlenose dolphin	-	4
021	Risso's dolphin	1	51
022	Pacific white-sided dolphin	1	88
027	Northern right whale dolphin	1	26
037	Killer whale	-	8
040	Harbor porpoise	12	69
044	Dall's porpoise	9	136
046	Sperm whale	4	13
049	Unidentified beaked whale	-	1
051	Mesoplodon sp.	-	4
061	Cuvier's beaked whale	-	2
063	Baird's beaked whale	1	1
069	gray whale	-	2
070	Unidentified rorqual	4	9
071	Minke whale	-	7
074	Fin whale	9	33
075	Blue whale	3	33
076	humpback whale	1	359
077	unid. dolphin	-	35
078	unid. medium dolphin	-	1
078	unid. small whale	-	2
079	unid. large whale	1	39
096	unid. cetacean	-	2
	TOTAL	**47**	**938**

Note: Pinnipeds not included; mixed groups are counted once for each species.

Biopsies (Tim O'Toole, Gary Friedrichsen, Jason Larese)

Species	Weekly	CSCAPE Total
Humpback whale	-	18
Blue whale	1	7
Fin whale	-	1
Sperm whale	-	11
Short-beaked common dolphin	-	1
Pacific white-sided dolphin	5	21
Northern right whale dolphin	-	6
Dall's porpoise	-	3
Killer whale	-	5
Risso's dolphin	4	4
GRAND TOTAL	**10**	**77**

Photo-Project (Annie Douglas, Holly Fearnbach, Cornelia Oedekoven)

Well, quality not quantity is our motto out here, and we are happy to get more of the same. After a few days of gray sky, gray water, few sightings, and blustery weather patterns circling

overhead, the mammal photo team had started to glower over their cameras and look longingly to the east and the shelf, where we believed multitudes of photogenic marine mammals awaited our arrival. So it was with shock that a tall blow on the horizon, 250nm off of Cape Blanco, Oregon, turned out to be a blue whale! Photos of these offshore animals are very difficult to obtain. Thanks to the group effort of Cornelia, Holly, Karin, and Laura on cameras, and the acoustic team (Liz and Laura) on sonobuoy repair and toss effort, we ended the day with excellent photographs and even some possible acoustic recordings from the two blue whales sighted. Crowning the week, if not the trip, we got beautiful views of two Baird's beaked whales alongside the ship. Judging by the lack of scratches on the animal's backs, these may have been young animals. It is always a little worrisome when you feel that you have the sighting of the entire cruise on leg 2, but we will try to remain confident that there are more beaked whales out here just waiting for their chance to visit a big white ship and get their photos taken.

Species	Weekly	CSCAPE Total
Humpback whale IDs	-	82
Blue whale IDs	3	27
Fin whale IDs	4	15
Sperm whale IDs	-	17
Killer whale IDs	-	53
Baird's beaked whale IDs	2	2
Short-beaked common dolphins*	-	5
Bottlenose dolphins*	-	1
Northern right whale dolphins*	1	7
Pacific white-sided dolphins*	1	13
Risso's dolphins*	1	9
Dall's porpoise*	-	2

*number of groups photographed

Bird Buzz (Peter Pyle, Thomas Staudt)

The advent of digital imagery is changing the game a bit for field ornithologists. When an interesting or noteworthy bird approaches we now have to decide whether to study and correctly identify it in the field, or attempt to get some digitals for later study on the computer screen. Each approach has its trade-offs. For example, on 8 August we had an unidentified dark *Pterodroma* petrel fly by the ship 170 miles off Cape Mendocino. One of us chose to get digital images rather than studying it, managing to fire off 41 shots in 38 seconds with the remarkable Canon 20 D. Later we were able to enlarge, fuss with the contrast, and add some white feathering to the forehead, making it into a Solander's Petrel. (Ahem, just kidding on that last point). In this case taking the shots was the right move, as we now have solid documentation for this occurrence, another first for North American waters if it turns out to be this species.

On the flip side, we encountered three pairs of murrelets 150-160 miles off the Washington coast on the 15th. They were either Xantus' or Craveri's Murrelets, and we thought the latter. These guys breed primarily in Baja and disperse northward in late summer and fall, but usually not as far as Washington waters, especially Craveri's. Identifying them to species thus was important, but this is a difficult task as these tiny seabirds usually dive or fly away, well before the vessel gets anywhere near. Obtaining digital images of murrelets is like biopsying a harbor porpoise at 500 meters. Never-the-less, when the second pair came into view we opted again for the camera over the binoculars. We managed to get them into the view-finder as they were taking off, but this time pushing the button resulted in...nothing. We had forgotten to turn the camera on.

Meanwhile the murrelets again escaped without being identified, something we would have accomplished had we studied them through binoculars instead. Oh well, maybe next time.

Bird reports for this leg have been consumed with the subject of rare birds and their documentation. But hey, sometimes that's what keeps our juices flowing-- keeps us up on the flying bridge through rain and Beaufort 6 and well after the mammal observers have called it a day - and this has certainly been a good leg for interesting encounters. But trust us, we are also quite interested in the patterns and ecology of the species that are supposed to be around. The time to wonder and reflect upon what we encounter is an under-appreciated benefit of staring at empty seas for hours on end. Why, for example, were Long-tailed Jaegers and Red Phalaropes migrating south in good-sized flocks over the President Jackson Seamount (185 miles off Oregon) on the 14th, but virtually absent the next day in the same weather conditions and water mass 50 miles to the north? And why, on the 16-17th, did we record lots of Black-footed Albatross 100-200 and 30-50 miles off Oregon but absolutely none 50-100 miles off? These are the more important questions to be answered, and we hope to do so by comparing our seabird data with those on marine mammals, physical oceanography, bongo tows, satellite images, etc.

Oceanographic Operations (Candice Hall, Liz Zele)

During our third and final week of this leg the DSJ Oceanography team (which now includes Karin and Kim, the ET) have everything working perfectly – including the TSG and ADCP! I really want to thank Liz, Karin and Kim for all of their hard work and support during the teething stages of this cruise. First round's on me!

This week has revealed water temperatures in the low 17's, dipping into 16 degrees centigrade (60.8 – 64 F). Again we have surfaced relatively small bongo samples, although last night's regular microscope session uncovered our catch of the leg – a minute nautilus and a heteropod (*Carinaria cristata*), approximately 15cm in length.

This week also heralded the first Sea Biscuit CTD draw. It's rather a simple concept, basically the first Niskin bottle that crosses the 'finish' line (i.e. bulkhead) wins the race, with the other bottles in close succession. All the scientists and most of the crew chose their Niskin number last night and the race was run this morning. Congratulations go to Karin (how appropriate!) and Sam (Engineer) for picking the winning bottle #7. Their prize is a beer supplied by the DSJ Oceanography contingent when in Newport. Thanks go to Annie Douglas for rising early to snap the photo finish shot for evidence (she also receives a liquid thank you in Newport).

Our parting thought for the week: Don't count your larva before it morphs!

Date	CTD's	Bongo tows	XBT's	Comments
08/11	2	1	4	
08/12	1	1	4	*Velella velella* collected & frozen
08/13	1	0	4	
08/14	2	1	4	
08/15	1	1	4	
08/16	1	1	4	
08/17	1	1	0	Last survey day of Leg 2